

ABSTRACT

The research compares three Linux distributions; Kali Linux, Fedora and Rocky Linux to determine which Linux Operating Systems are best tailored to support practicum activities in Information Systems Department in Faculty of Industrial Engineering Telkom University. Given the rise in importance of Linux in today's learning institutions due to its open source nature, configurability, and stability, choosing the right operating system to run laboratories on is important. The evaluation approach applies the TOPSIS method of multi-criteria decision analysis using the direct rating method to assign weights to the criteria. The evaluation is done across four areas: tool compatibility, systems defaults, user experience and performance & stability. Simulated practicum were done within five laboratory modules to evaluate each OS in the context of realistic practices. These results indicate that Rocky Linux as the first OS is highest in readiness, compatibility and reliability, with Fedora and Kali Linux following closely behind. These results can be used by educational institutions to better design system environments to support engineering education and good/secure/sustainable learning environments.

Keywords—Operating System, Practicum, TOPSIS, Direct Rating, Practicum, Rocky Linux, Fedora, Kali Linux, Information System